

WHAT IS CLAIMED IS:

1. A wound dressing comprising an apertured liquid permeable substrate and an absorbent, nonadherent polymer composition comprising:  
5 a hydrophobic organic polymer matrix;  
an optional plasticizing agent; and  
hydrophilic organic microparticles.
2. The wound dressing of claim 1 wherein the hydrophobic organic polymer  
10 matrix comprises a styrene-isoprene-styrene copolymer, a styrene-butadiene-styrene copolymer, or mixtures thereof.
3. The wound dressing of claim 1 wherein the composition comprises a  
plasticizing agent.  
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4. The wound dressing of claim 1 wherein the microparticles when in a  
substantially nonhydrated form have an average particle size of 10 microns or less.
5. The wound dressing of claim 4 wherein the microparticles when in a  
20 substantially nonhydrated form have an average particle size of 1 micron or less.
6. The wound dressing of claim 5 wherein the microparticles when in a  
substantially nonhydrated form have an average particle size of 0.5 micron or less.
- 25 7. The wound dressing of claim 1 wherein the apertured liquid permeable substrate comprises 1 to 225 apertures per square centimeter.
8. The wound dressing of claim 1 wherein the apertured liquid permeable substrate  
comprises apertures having an average opening size of 0.1 millimeter to 0.5 centimeter.  
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9. The wound dressing of claim 1 wherein the microparticles comprise an amine-containing organic polymer.

10. The wound dressing of claim 9 wherein the amine-containing organic polymer microparticles comprise a quaternary ammonium salt of an organic polymer.
- 5 11. The wound dressing of claim 10 wherein the microparticles comprise a cationic homopolymer of the methyl chloride quaternary salt of 2-(dimethylamino)ethyl methacrylate.
- 10 12. The wound dressing of claim 1 wherein the microparticles comprise a copolymer of sodium acrylate and acrylic acid.
- 15 13. The wound dressing of claim 1 wherein the microparticles are in the form of a dispersion.
14. The wound dressing of claim 1 wherein the polymer composition further comprises a bioactive agent.
- 15 15. The wound dressing of claim 14 wherein the bioactive agent is an antimicrobial agent.
- 20 16. The wound dressing of claim 1 wherein the polymer composition further comprises an additive selected from the group consisting of a tackifier, a crosslinking agent, a stabilizer, a compatibilizer, an extruding aid, a filler, a pigment, a dye, a swelling agent, a chain transfer agent, and combinations thereof.
- 25 17. The wound dressing of claim 1 wherein the hydrophobic organic polymer matrix comprises a mixture of two or more polymers.
18. The wound dressing of claim 1 wherein the microparticles are present in an amount of 1 wt-% to 60 wt-%, based on the total weight of the polymer composition.
- 30 19. A wound dressing comprising an apertured liquid permeable substrate and an absorbent, nonadherent polymer composition comprising:

a hydrophobic organic polymer matrix comprising a styrene-isoprene-styrene copolymer, a styrene-butadiene-styrene copolymer, or mixtures thereof;  
an optional plasticizing agent; and  
hydrophilic microparticles comprising an amine-containing organic polymer.

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20. A wound dressing comprising an apertured liquid permeable substrate and an absorbent, nonadherent polymer composition comprising:

a hydrophobic organic polymer matrix comprising a styrene-isoprene-styrene copolymer, a styrene-butadiene-styrene copolymer, or mixtures thereof;

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an optional plasticizing agent; and

hydrophilic microparticles comprising a sodium polyacrylate copolymer.

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21. A method of treating a wound, the method comprising applying the wound dressing of claim 1 to the wound.

22. A method of treating a wound, the method comprising applying the wound dressing of claim 19 to the wound.

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23. A method of treating a wound, the method comprising applying the wound dressing of claim 20 to the wound.